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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,914	08/21/2003	Takahiro Ohkuma	U1927.0010	6478

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EXAMINER	
CURS, NATHAN M	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/644,914	OHKUMA, TAKAHIRO	
	Examiner	Art Unit	
	Nathan Curs	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. Applicant is advised that should claims 3-6 be found allowable, claims 14-17 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 2, 7, 8, 11, 12, 18, 19, 22, 28 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 in line 5, claim 11 in line 4, and claim 22 in line 4 recites the limitation "each packet". There is insufficient antecedent basis for this limitation in the claim.

Claim 1 in line 6, claim 2 in line 12, claim 11 in line 5, claim 12 in line 12, and claim 22 in line 5 recites the limitation "each service class". This should be “a service class” or similar. Claiming that each correspondent wavelength corresponds to each service class is the same as saying each correspondent wavelength corresponds to all the service classes. This contradicts the preceding limitation of a plurality of different wavelengths corresponding to a plurality of different service classes, respectively.

Claim 1 in line 9, claim 11 in line 8 and claim 22 in line 8 recites the limitation "multiplexed-wavelength". This should be "multiplexed-signal" or similar because the combination of a plurality of wavelengths via wavelength multiplexing is not a multiplexed wavelength but a multiplexed signal (having a plurality of wavelengths).

Claim 7 in lines 2-3, claim 18 in lines 2-3 and claim 28 in line 3 recites the limitation "each input port information". There is insufficient antecedent basis for this limitation in the claim.

Claim 7 in lines 11-12, claim 8 in lines 13-14, claim 18 in lines 11-12, claim 19 in lines 9-10, claim 28 in line 10, and claim 29 in lines 8-9 recites the limitation "so as to specify, as said each service class, each service class corresponding to each port". The wording of this limitation is confusing.

Claim 8 in lines 5 and 8, claim 19 in lines 5 and 8 and claim 29 in line 5 recites the limitation "second service class-correspondent table". However, there is no corresponding "first" service class-correspondent table, so the scope of the claim is ambiguous.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-6, 9-17, 20-27 and 30 are rejected under 35 U.S.C. 102(a) as being anticipated by Callegati et al. ("Callegati") (*Exploitation of DWDM for optical packet switching with quality of service guarantees*; Callegati et al.; Selected Areas in Communications, IEEE Journal on; Volume 20, Issue 1, Jan. 2002; Pages: 190-201).

Regarding claims 1, 11, 13, 22 and 23, Callegati discloses a data multiplexing network system, wavelength multiplexer and method including: a wavelength division multiplexing network (page 190, section I); a first wavelength multiplexing function unit for setting a plurality of different wavelengths which correspond to a plurality of different service classes, respectively (fig. 1 and page 195, section V, first three paragraphs), and for mapping each packet into each correspondent-wavelength which corresponds to a service class, to which said each packet belongs (page 191, col. 1, third full paragraph and section III, first paragraph, and page 195, section V, first three paragraphs), and for multiplexing said correspondent-wavelengths for said plurality of different service classes for a data transmission at a multiplexed-signal through said wavelength division multiplexing network (fig. 1); and a second wavelength multiplexing function unit for receiving said each correspondent-wavelength and for fetching a packet from said each correspondent-wavelength (fig. 1 and page 190, section I and pages 191-193, section III, first paragraph through sub-section A, where a network comprising optical packet switches of fig. 1 will have a first optical switch of the fig. 1 type upstream from a second optical packet switch of the fig. 1 type).

Regarding claims 2 and 12, Callegati the data multiplexing network system and wavelength multiplexer as claimed in claims 1 and 11, wherein said first wavelength multiplexing function unit further includes: a plurality of ports for receiving a plurality of packets and a first packet interface unit for receiving said plurality of packets from said plurality of ports (fig. 1 and fig. 2, input elements and pages 191-193, section III, first paragraph through sub-section A); a first service class specifying unit for receiving said plurality of packets from said first packet interface unit and for specifying each service class to which each of said plurality of packets belongs and a first wavelength mapping unit for receiving said plurality of packets from said first service class specifying unit and for mapping each of said plurality of packets at each

correspondent-wavelength which corresponds to a service class (fig. 2 and pages 191-193, section III, first paragraph through sub-section A and page 195, section V); and a first wavelength division multiplexing network interface for receiving said correspondent-wavelengths from said first wavelength mapping unit and for multiplexing said correspondent-wavelengths (fig. 1).

Regarding claims 3, 14 and 24, Callegati discloses the data multiplexing network system, wavelength multiplexer and method as claimed in claims 2, 13 and 23 wherein said second wavelength multiplexing function unit further includes: a second wavelength division multiplexing network interface for demultiplexing a multiplexed wavelength transmitted through said wavelength division multiplexing network into said correspondent-wavelengths (fig. 1, as applicable to the second optical packet switch); a second wavelength mapping unit for receiving said correspondent-wavelengths from said second wavelength division multiplexing network interface and for fetching said packets from said correspondent-wavelengths (fig. 1 and page 191, col. 1, third full paragraph and section III, first paragraph, and page 195, section V, first three paragraphs); a second service class specifying unit for receiving said packets from said second wavelength mapping unit and for specifying each output port for each of said packets, and for adding each output port information to said each packet (page 191, section III, first paragraph, where wavelength assignment corresponds to output port assignment, and fig. 2 and pages 191-193, section III, first paragraph through sub-section A and page 195, section V); and a second packet interface unit for receiving said each packet with said each output port information and for sending said each packet to identified one of said plurality of ports, identified by said each output port information (fig. 1 and page 191, section III, first paragraph, as applicable to the second optical packet switch).

Regarding claims 4, 15 and 25, Callegati discloses the data multiplexing network system, wavelength multiplexer and method as claimed in claims 3, 14 and 24, wherein said first service class specifying unit adds said each output port information to said each packet (page 191, section III, first paragraph, where wavelength assignment corresponds to output port assignment, as applicable to the first optical packet switch), and wherein said second service class specifying unit also specifies said each output port based on said each output port information of said each packet (page 191, section III, first paragraph, where wavelength assignment corresponds to output port assignment, as applicable to the second optical packet switch).

Regarding claim 5, 16 and 26, Callegati discloses the data multiplexing network system, wavelength multiplexer and method as claimed in claims 3, 14 and 24, wherein said second service class specifying unit also specifies said each output port based on each packet specifying information included in said each packet (page 191, section III, first paragraph, where wavelength assignment corresponds to output port assignment, and page 191, col. 1, third full paragraph and pages 193-194, section III.D, where the output port is based on the final destination of the packet, where the destination address is in the header).

Regarding claim 6, 17 and 27, Callegati discloses the data multiplexing network system, wavelength multiplexer and method as claimed in claims 5, 16 and 26, wherein said each packet specifying information comprises a packet header included in said each packet (page 191, col. 1, third full paragraph).

Regarding claim 9, 20 and 30, Callegati discloses the data multiplexing network system, wavelength multiplexer and method as claimed in claims 1, 11 and 22 wherein said plurality of different service classes include a best effort class and a perfect band guarantee class (page

195, section V, where the class "high priority in profile traffic" reads on "perfect band guarantee class").

Regarding claim 10 and 21, Callegati discloses the data multiplexing network system and wavelength multiplexer as claimed in claims 1 and 11, wherein at least one of said first and second wavelength multiplexing function units further includes a shaper for controlling packet traffics in a plurality of wavelength bands (page 195, section V).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent No. 7106967 – This patent discloses an optical packet switching system and method where different services classes exist differentiated by bit rate, where optical packets are grouped into wavelength according to bit rate, and where bit rate information resides in the optical packet header.
- *Distributed wavelength assignment protocols with priority for WDM all-optical networks*; Peng et al.; Computer Communications and Networks 2000, Proceedings, Ninth International Conference on; 16-18 Oct. 2000; Pages: 625-630 – This reference discloses priority based wavelength assignment for optical packets in a WDM all-optical network.

7. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (800) 786-9199.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pairdirect.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JASON CHAN
SUPERVISORY PATENT EXAMINER
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